

This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Industrial permit. The discharge results from the operation of a potable water treatment plant. This permit action consists of updating the proposed effluent limits to reflect the current Virginia WQS (effective January 6, 2011) and updating permit language as appropriate. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260-00 et seq.

1. Facility Name and Mailing Address: Purcellville Town WTP
221 S. Nursery Ave
Purcellville, VA 20132
SIC Code : 4941 WTP

Facility Location: 16153 Short Hill Rd
Purcellville, VA 20132
County: Loudoun

Facility Contact Name: Brian Lutton
Telephone Number: (540)338-2513

Facility E-mail Address: blutton@purcellvilleva.gov
2. Permit No.: VA0089940
Expiration Date of previous permit: January 6, 2014

Other VPDES Permits associated with this facility: None

Other Permits associated with this facility: None

E2/E3/E4 Status: Not Applicable
3. Owner Name: Town of Purcellville
Owner Contact/Title: Alex Vanegas, Director of Public Works
Telephone Number: (540)338-5024
Owner E-mail Address: avanegas@purcellvilleva.gov
4. Application Complete Date: July 8, 2013
Permit Drafted By: Alison Thompson
Date Drafted: March 11, 2014
Draft Permit Reviewed By: Joan Crowther
Date Reviewed: March 19, 2014
Public Comment Period : Start Date: April 23, 2014
End Date: May 23, 2014
5. Receiving Waters Information: See Attachment 1 for the Flow Frequency Determination

Receiving Stream Name : South Fork Catoctin Creek, UT
Stream Code: 1aXIL

Drainage Area at Outfall: 0.02 sq.mi.
River Mile: 0.96

Stream Basin: Potomac
Subbasin: Potomac

Section: 10
Stream Class: III

Special Standards: None
Waterbody ID: VAN-A02R

7Q10 Low Flow: 0.0 MGD
7Q10 High Flow: 0.0 MGD

1Q10 Low Flow: 0.0 MGD
1Q10 High Flow: 0.0 MGD

30Q10 Low Flow: 0.0 MGD
30Q10 High Flow: 0.0 MGD

Harmonic Mean Flow: 0.0 MGD
30Q5 Flow: 0.0 MGD

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

<input checked="" type="checkbox"/> State Water Control Law	<input type="checkbox"/> EPA Guidelines
<input checked="" type="checkbox"/> Clean Water Act	<input checked="" type="checkbox"/> Water Quality Standards
<input checked="" type="checkbox"/> VPDES Permit Regulation	<input checked="" type="checkbox"/> Other (9VAC25-860 Potable WTP GP)
<input checked="" type="checkbox"/> EPA NPDES Regulation	

7. Licensed Operator Requirements: Not Applicable

8. Reliability Class: Not Applicable

9. Permit Characterization:

<input type="checkbox"/> Private	<input type="checkbox"/> Effluent Limited	<input type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> State	<input type="checkbox"/> Whole Effluent Toxicity Program Required	<input type="checkbox"/> Interim Limits in Permit
<input checked="" type="checkbox"/> WTP	<input type="checkbox"/> Pretreatment Program Required	<input type="checkbox"/> Interim Limits in Other Document
<input type="checkbox"/> TMDL	<input checked="" type="checkbox"/> e-DMR Participant	

10. Wastewater Sources and Treatment Description:

Wastewater is generated through filter backwash, which occurs once or twice a day depending on filter head loss or finished water turbidity. The backwash cycle is automatically controlled and each treatment train filter works independently of the other two setting up a variable backwash schedule. Backwash wastewater drains to two concrete sedimentation basins. The basins are alternated each day allowing sediments to settle prior to discharge. Once the water level in the basin reaches a certain level, a float activated switch pumps the wastewater through the tablet dechlorination unit to the receiving stream located off the facility property.

The receiving stream, an unnamed tributary (UT) of South Fork Catoctin Creek, is a dry ditch that passes through a vegetated area and along farm fields as a natural storm water conveyance and intermittent stream prior to reaching South Fork Catoctin Creek.

In addition to the backwash wastewater effluent, the outfall is capable of discharging finished water in the event that the storage tank needs to be drained down for maintenance. This option has never been exercised since the plant has allowed water consumption through the distribution system to drain the tank in the past when required. If this option is ever needed an additional tablet dechlorination unit would be needed at the outfall to remove any residual chlorine present in the finished water since this discharge would bypass the treatment unit already in place.

See Attachment 2 for the NPDES Permit Rating Worksheet.

See Attachment 3 for a facility schematic/diagram.

TABLE 1 – Outfall Description

Outfall Number	Discharge Sources	Treatment	Max 30-day Flow	Outfall Latitude and Longitude
001	Backwash from filters, drainage from storage tanks	See Item 10 above.	0.039 MGD	39° 10' 13" N 77° 44' 29" W
See Attachment 4 for (Purcellville Quad, DEQ #215B) topographic map.				

11. Solids Treatment and Disposal Methods:

The Purcellville Town WTP is an industrial facility that does not generate sewage sludge. Water treatment filter backwash sludge is pumped from the settling basins to covered drying beds. Once the sludge is dry, it is collected and transported to the Loudoun County Landfill for disposal.

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge

TABLE 2 – Monitoring Stations	
1aS0C013.05	DEQ Ambient and Biological Monitoring Station on South Fork Catoctin Creek, approximately 2.4 miles downstream from the outfall.
1aS0C012.38	DEQ Ambient Monitoring Station on South Fork Catoctin Creek, approximately 3.04 miles downstream from the outfall.

13. Material Storage:

TABLE 3 - Material Storage		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Sodium Hypochlorite	< 1500 gallons -Bulk 1100 gal tank and 55gal drums	Spill containment under drums and Double walled storage tank
Sodium Bisulfate	< 350 gallons- 55gal drums	Mobile spill containment booms
Aluminum Sulfate	< 8000 lbs dry- 50lb bags 800 gallon mixing tank	Mixing tank overflows to wastewater basins
Soda Ash	< 8000 lbs dry- 50lb bags 200 gallon mixing tank	Mixing tank overflows to wastewater basins
CP33 Phosphate	< 250 gallons- 55gal drums	Spill containment under drums

14. Site Inspection:

Performed by DEQ-Compliance on July 20, 2007 (Attachment 5). The facility is scheduled to be inspected in 2014.

15. Receiving Stream Water Quality and Water Quality Standards:**a. Ambient Water Quality Data**

This facility discharges into an unnamed tributary to South Fork Catoctin Creek that has not been monitored or assessed. There is a downstream DEQ ambient monitoring station located on South Fork Catoctin Creek, located approximately 2.4 miles downstream of Outfall 001. Station 1aS0C013.05 is located just upstream of the Route 7 Bypass crossing. The following is the water quality summary for this segment of South Fork Catoctin Creek, as taken from the 2012 Integrated Report:

The stream is classified as a Class III stream and is in Section 10b.

DEQ monitoring station located in this segment of South Fork Catoctin Creek:

- *Ambient and biological monitoring station 1aS0C013.05, fifty yards above the Route 7 Bypass crossing*

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. The E. coli data collected by the citizen monitoring group indicate that a water quality issue may exist for the recreation use; however, the methodology and/or data quality has not been approved for such a determination. A fecal coliform TMDL for the South Fork Catoctin Creek watershed has been completed and approved.

Biological and associated chemical monitoring finds this segment to be supporting the aquatic life use. Citizen monitoring finds a low probability of adverse conditions for biota. The fish consumption use is considered fully supporting based on water column metals data. The wildlife use is fully supporting.

b. 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

TABLE 4 – TMDL Information							
Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA	TMDL Schedule
<i>Impairment Information in the 2012 Integrated Report</i>							
South Fork Catoctin Creek	Recreation	<i>E. coli</i>	0.96 miles	Catoctin Creek Watershed Bacteria 5/31/2002	None (not expected to discharge pollutant)	---	---
	Aquatic Life	Benthic Macroinvertebrates	2.7 miles	No	NA	NA	2016

The planning statement is found in Attachment 6.

c. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, South Fork Catoctin Creek, UT, is located within Section 10 of the Potomac River Basin, and classified as a Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0-9.0 standard units (S.U.).

Attachment 7 details other water quality criteria applicable to the receiving stream.

Ammonia:

The fresh water, aquatic life Water Quality Criteria for Ammonia is dependent on the instream temperature and pH. The 90th percentile temperature and pH values are used because they best represent the critical design conditions of the receiving stream. The 7Q10 and 1Q10 of the receiving stream are 0.0 MGD. In cases such as this, default values can be used to determine ammonia criteria. A temperature value of 25°C and a pH value of 8.0 S.U. were used to calculate the ammonia water quality standards. The ammonia water quality standards calculations are shown in Attachment 7.

Metals Criteria:

The Water Quality Criteria for some metals are dependent on the receiving stream's hardness (expressed as mg/L calcium carbonate). There is no Total Hardness data for this facility. Staff guidance suggests using a default hardness value of 50 mg/L CaCO₃ for streams east of the Blue Ridge. The hardness-dependent metals criteria in Attachment 7 are based on this default value.

Bacteria Criteria:

The Virginia Water Quality Standards at 9VAC25-260-170 A state that the following criteria shall apply to protect primary recreational uses in surface waters:

E. coli bacteria per 100 ml of water shall not exceed a monthly geometric mean of the following:

	Geometric Mean ¹
Freshwater <i>E. coli</i> (N/100 ml)	126

¹For a minimum of four weekly samples [taken during any calendar month].

d. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, South Fork Catoctin Creek, UT, is located within Section 10 of the Potomac Basin. This section has been designated with no special standards.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on an evaluation of the critical stream flows. The critical flows for the stream are zero and at times the stream flow is comprised of only effluent. It is staff's best professional judgment that such streams are Tier 1 since the limits are set to meet the WQS. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA) are calculated. In this case since the critical flows 7Q10 and 1Q10 have been determined to be zero, the WLA's are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency, and statistical characteristics of the effluent data.

a. Effluent Screening:

Effluent data obtained from the permit application and Discharge Monitoring Reports (DMRs) has been reviewed and determined to be suitable for evaluation. Effluent data were reviewed, and the facility had some issues with the effluent pH value being below the permit minimum limitation of 6.0 S.U. due to an operator error.

In January 2012, DEQ was notified by the Town of Purcellville of a problem with the pH of the effluent from this water treatment plant. There were multiple discharges with the pH below the permit minimum pH limitation of 6.0 S.U. The Town notified DEQ as soon as Town management became aware of the problems with the discharge. By letter dated January 11, 2012, the Town outlined the series of events that occurred at the water treatment plant. DEQ issued a referral Notice of Violation on February 24, 2012. There were subsequent meetings and correspondence between DEQ and the Town management. The Town demonstrated that the problems at the facility had been satisfactorily corrected, so the case was de-referred by DEQ-Enforcement staff on April 10, 2012.

The following pollutants require a wasteload allocation analysis: Total Residual Chlorine.

b. Mixing Zones and Wasteload Allocations (WLAs):

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where:

- | | | |
|----------------|---|---|
| WLA | = | Wasteload allocation |
| C _o | = | In-stream water quality criteria |
| Q _e | = | Design flow |
| Q _s | = | Critical receiving stream flow
(1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; 30Q10 for ammonia criteria; harmonic mean for carcinogen-human health criteria; and 30Q5 for non-carcinogen human health criteria) |
| f | = | Decimal fraction of critical flow |
| C _s | = | Mean background concentration of parameter in the receiving stream. |

The water segment receiving the discharge via Outfall 001 is considered to have a 7Q10, 30Q10, and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o .

c. Effluent Limitations Toxic Pollutants, Outfall 001 –

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

Total Residual Chlorine:

Chlorine is used for disinfection and is potentially in the discharge. Staff calculated WLAs for TRC using current critical flows and the mixing allowance. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. A monthly average of 0.016 mg/L and a daily maximum limit of 0.016 mg/L are proposed to be carried forward with this reissuance (Attachment 8).

d. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to the total suspended solids (TSS) and pH limitations are proposed. pH limitations are set at the water quality criteria. The limit for Total Suspended Solids (TSS) is based on staff's best professional judgment.

e. Effluent Limitations and Monitoring Summary.

The effluent limitations are presented in the following table. Limits were established for Flow, Total Suspended Solids, pH, and Total Residual Chlorine.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Effluent Limitations/Monitoring Requirements:

Maximum Flow of this Industrial Facility is 0.039 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	N/A	N/A	NL	1/M	Est
pH	3	NA	NA	6.0 s.u.	9.0 s.u.	1/M	Grab
TSS	2	30 mg/L	60 mg/L	NA	NA	1/M	5G/8H
Total Residual Chlorine	3	0.016 mg/L	0.016 mg/L	NA	NA	1/M	Grab

The basis for the limitations codes are:

MGD = Million gallons per day.

1. Federal Effluent Requirements

NA = Not applicable.

1/M = Once every month.

2. Best Professional Judgement

NL = No limit; monitor and report.

3. Water Quality Standards

S.U. = Standard units.

EST = Estimate

5G/8H = 5 Grab/Eight Hour Composite - Consisting of five (5) grab samples collected at hourly intervals until the discharge ceases or five (5) grab samples taken at equal time intervals for the duration of the discharge if the discharge is less than 8 hours in length.

EST = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

20. Other Permit Requirements:

a. Part I.B. of the permit contains quantification levels and compliance reporting instructions.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

a. O&M Manual Requirement.

Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. The permittee shall maintain a current Operations and Maintenance (O&M) Manual. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

b. Notification Levels.

The permittee shall notify the Department as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (a) One hundred micrograms per liter;
 - (b) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
 - (c) Five times the maximum concentration value reported for that pollutant in the permit application; or
 - (d) The level established by the Board.
2. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (a) Five hundred micrograms per liter;

- (b) One milligram per liter for antimony;
- (c) Ten times the maximum concentration value reported for that pollutant in the permit application; or
- (d) The level established by the Board.

c. Materials Handling/Storage.

9VAC25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.

d. Water Quality Criteria Reopener. The VPDES Permit Regulation at 9VAC25-31-220 D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should data collected and submitted for Attachment A of the permit, indicate the need for limits to ensure protection of water quality criteria, the permit may be modified or alternately revoked and reissued to impose such water quality-based limitations.

e. Water Quality Criteria Monitoring. State Water Control Law §62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. States are required to review data on discharges to identify actual or potential toxicity problems, or the attainment of water quality goals, according to 40 CFR Part 131, Water Quality Standards, subpart 131.11. To ensure that water quality criteria are maintained, the permittee is required to analyze the facility's effluent for the substances noted in Attachment A of this VPDES permit.

f. TMDL Reopener: This special condition is to allow the permit to reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.

22. Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. **Changes to the Permit from the Previously Issued Permit:**

a. Special Conditions:

- 1) The requirement for one Water Quality Criteria Monitoring scan was added to the permit.

b. Monitoring and Effluent Limitations:

No changes are proposed to the effluent limitations.

24. **Variances/Alternate Limits or Conditions:**

No variances or alternate limits are proposed.

25. **Public Notice Information:**

First Public Notice Date: April 23, 2014

Second Public Notice Date: April 30, 2014

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3834, Alison.Thompson@deq.virginia.gov. See Attachment 9 for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. Additional Comments:

Previous Board Action(s): None.

Staff Comments: This permit reissuance was delayed because staff had planned for the facility to apply for coverage under the Potable Water Treatment Plant General Permit (9VAC25-860) with an effective date of December 24, 2013. The facility opted to continue coverage under the individual permit.

Public Comment: There was no public comment.

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: Flow Frequency Determination
Purcellville WTP - Issuance

TO: April Young, NRO

FROM: Paul E. Herman, P.E., WQAP *Paul*

DATE: July 6, 1998

COPIES: Ron Gregory, Charles Martin, File

The Purcellville WTP discharges to an unnamed tributary of the South Fork Catoctin Creek near Purcellville, VA. Flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The values at the discharge point were determined by inspection of the USGS Purcellville Quadrangle topographical map which shows the receiving stream to be a dry ditch which drains to an intermittent stream. The flow frequencies for dry ditches and intermittent streams are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and the harmonic mean.

If you have any questions concerning this analysis, please let me know.

RECEIVED

JUL 7 1998

Northern VA. Region
Dept. of Env. Quality

NPDES PERMIT RATING WORK SHEET

VPDES NO. : VA0089940

- ☒ Regular Addition
☐ Discretionary Addition
☐ Score change, but no status Change
☐ Deletion

Facility Name: Town of Purcellville Water Treatment Plant

City / County: Purcellville / Loudoun County

Receiving Water: Unnamed Tributary to South Fork Catoclin Creek

Reach Number:

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)

2. A nuclear power Plant

3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

☐ YES; score is 700 (stop here)☒ NO; (continue)☐ Yes; score is 600 (stop here) ☒ NO; (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: Primary Sic Code: 4941 Other Sic Codes:

Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	15	<input checked="" type="checkbox"/> 7.	7	35
<input type="checkbox"/> 1.	1	5	<input type="checkbox"/> 4.	4	20	<input type="checkbox"/> 8.	8	40
<input type="checkbox"/> 2.	2	10	<input type="checkbox"/> 5.	5	25	<input type="checkbox"/> 9.	9	45
			<input type="checkbox"/> 6.	6	30	<input type="checkbox"/> 10.	10	50

Code Number Checked: 7

Total Points Factor 1: 35

FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A – Wastewater Flow Only considered

Wastewater Type (see Instructions)	Code	Points
Type I: Flow < 5 MGD	<input type="checkbox"/> 11	0
Flow 5 to 10 MGD	<input type="checkbox"/> 12	10
Flow > 10 to 50 MGD	<input type="checkbox"/> 13	20
Flow > 50 MGD	<input type="checkbox"/> 14	30
Type II: Flow < 1 MGD	<input checked="" type="checkbox"/> 21	10
Flow 1 to 5 MGD	<input type="checkbox"/> 22	20
Flow > 5 to 10 MGD	<input type="checkbox"/> 23	30
Flow > 10 MGD	<input type="checkbox"/> 24	50
Type III: Flow < 1 MGD	<input type="checkbox"/> 31	0
Flow 1 to 5 MGD	<input type="checkbox"/> 32	10
Flow > 5 to 10 MGD	<input type="checkbox"/> 33	20
Flow > 10 MGD	<input type="checkbox"/> 34	30

Section B – Wastewater and Stream Flow Considered

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow	Code	Points
Type I/III:	< 10 %	<input type="checkbox"/> 41	0
	10 % to < 50 %	<input type="checkbox"/> 42	10
	> 50 %	<input type="checkbox"/> 43	20
Type II:	< 10 %	<input type="checkbox"/> 51	0
	10 % to < 50 %	<input type="checkbox"/> 52	20
	> 50 %	<input type="checkbox"/> 53	30

Code Checked from Section A or B: 21

Total Points Factor 2: 10

NPDES PERMIT RATING WORK SHEET

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) ☐ BOD ☐ COD ☐ Other: Not Applicable

Permit Limits: (check one)

	Code	Points
<input type="checkbox"/> < 100 lbs/day	1	0
<input type="checkbox"/> 100 to 1000 lbs/day	2	5
<input type="checkbox"/> > 1000 to 3000 lbs/day	3	15
<input type="checkbox"/> > 3000 lbs/day	4	20

Code Number Checked: NAPoints Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits: (check one)

	Code	Points
<input checked="" type="checkbox"/> < 100 lbs/day	1	0
<input type="checkbox"/> 100 to 1000 lbs/day	2	5
<input type="checkbox"/> > 1000 to 5000 lbs/day	3	15
<input type="checkbox"/> > 5000 lbs/day	4	20

Code Number Checked: 1Points Scored: 0C. Nitrogen Pollutants: (check one) ☐ Ammonia ☐ Other: Not Applicable

Permit Limits: (check one)

	Code	Points
<input type="checkbox"/> Nitrogen Equivalent < 300 lbs/day	1	0
<input type="checkbox"/> 300 to 1000 lbs/day	2	5
<input type="checkbox"/> > 1000 to 3000 lbs/day	3	15
<input type="checkbox"/> > 3000 lbs/day	4	20

Code Number Checked: NAPoints Scored: 0Total Points Factor 3: 0**FACTOR 4: Public Health Impact**

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

☒ YES; (If yes, check toxicity potential number below)☐ NO; (If no, go to Factor 5)

Determine the Human Health potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1. (Be sure to use the Human Health toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	0	<input checked="" type="checkbox"/> 7.	7	15
<input type="checkbox"/> 1.	1	0	<input type="checkbox"/> 4.	4	0	<input type="checkbox"/> 8.	8	20
<input type="checkbox"/> 2.	2	0	<input type="checkbox"/> 5.	5	5	<input type="checkbox"/> 9.	9	25
			<input type="checkbox"/> 6.	6	10	<input type="checkbox"/> 10.	10	30

Code Number Checked: 7Total Points Factor 4: 15

NPDES PERMIT RATING WORK SHEET

FACTOR 5: Water Quality Factors

- A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-base federal effluent guidelines, or technology-base state effluent guidelines), or has a wasteload allocation been to the discharge

	Code	Points
<input checked="" type="checkbox"/> YES	1	10
<input type="checkbox"/> NO	2	0

- B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
<input checked="" type="checkbox"/> YES	1	0
<input type="checkbox"/> NO	2	5

- C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
<input type="checkbox"/> YES	1	10
<input checked="" type="checkbox"/> NO	2	0

Code Number Checked:

Points Factor 5:

$$A \frac{1}{10} + B \frac{1}{0} + C \frac{2}{0} = 10$$

FACTOR 6: Proximity to Near Coastal Waters

- A. Base Score: Enter flow code here (from factor 2) 21

Check appropriate facility HPRI code (from PCS):

HPRI#	Code	HPRI Score
<input type="checkbox"/> 1	1	20
<input type="checkbox"/> 2	2	0
<input type="checkbox"/> 3	3	30
<input checked="" type="checkbox"/> 4	4	0
<input type="checkbox"/> 5	5	20

HPRI code checked: 4Base Score (HPRI Score): 0 X (Multiplication Factor) 0.1 = 0

Enter the multiplication factor that corresponds to the flow code: _____

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

- B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

Code	Points
<input type="checkbox"/> 1	10
<input checked="" type="checkbox"/> 2	0

Code Number Checked:

Points Factor 6:

- C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 area's of concern (see instructions)?

Code	Points
<input type="checkbox"/> 1	10
<input checked="" type="checkbox"/> 2	0

$$A \frac{4}{0} + B \frac{2}{0} + C \frac{2}{0} = 0$$

NPDES PERMIT RATING WORK SHEET

SCORE SUMMARY

<u>Factor</u>	<u>Description</u>	<u>Total Points</u>
1	Toxic Pollutant Potential	35
2	Flows / Streamflow Volume	10
3	Conventional Pollutants	0
4	Public Health Impacts	15
5	Water Quality Factors	10
6	Proximity to Near Coastal Waters	0
TOTAL (Factors 1 through 6)		70

S1. Is the total score equal to or greater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE : 70

OLD SCORE : 70

Permit Reviewer's Name : Alison Thompson

Phone Number: (703) 583-3834

Date: October 31, 2008

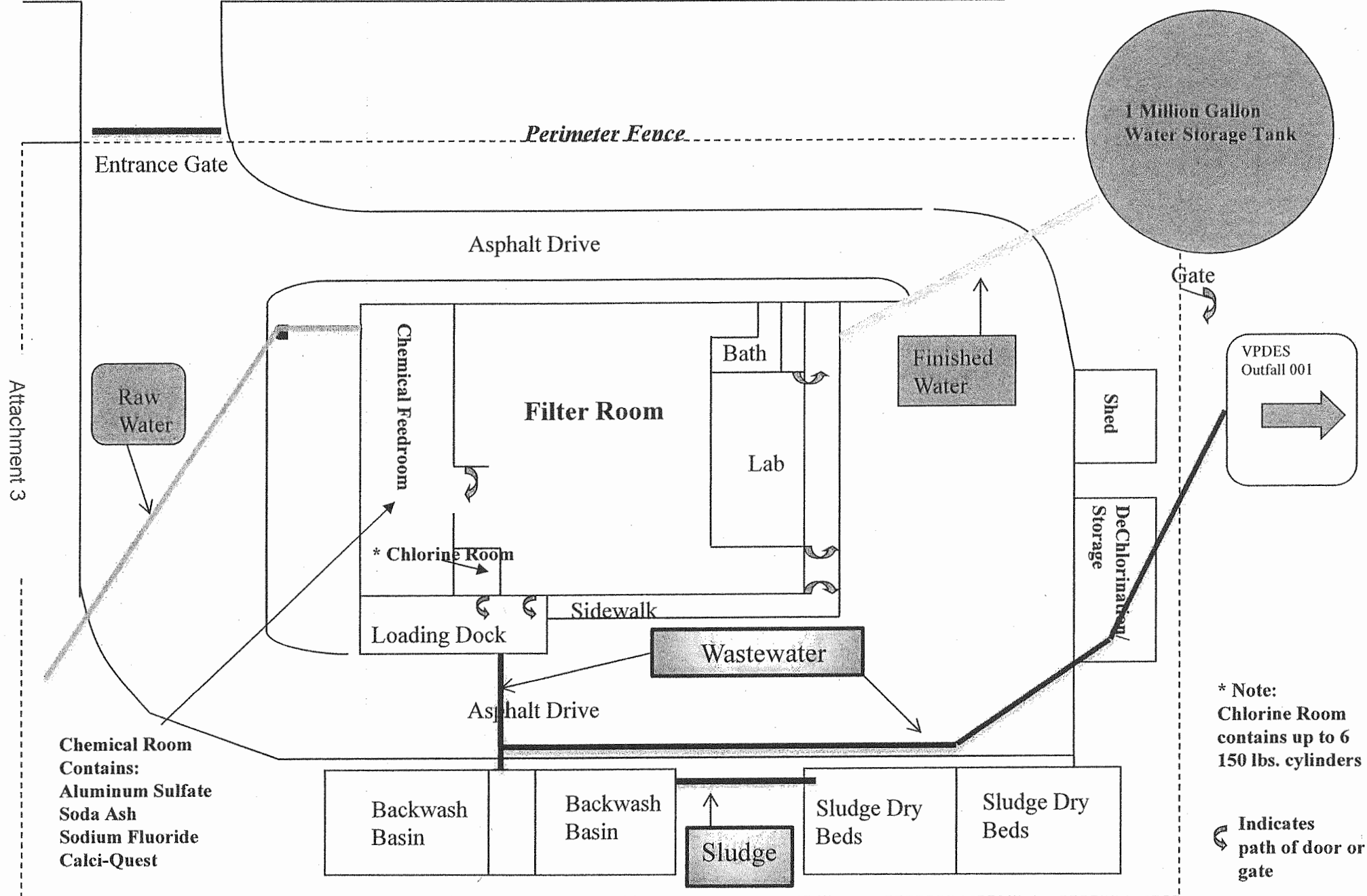
*Reviewed +
accepted*

12/26/13

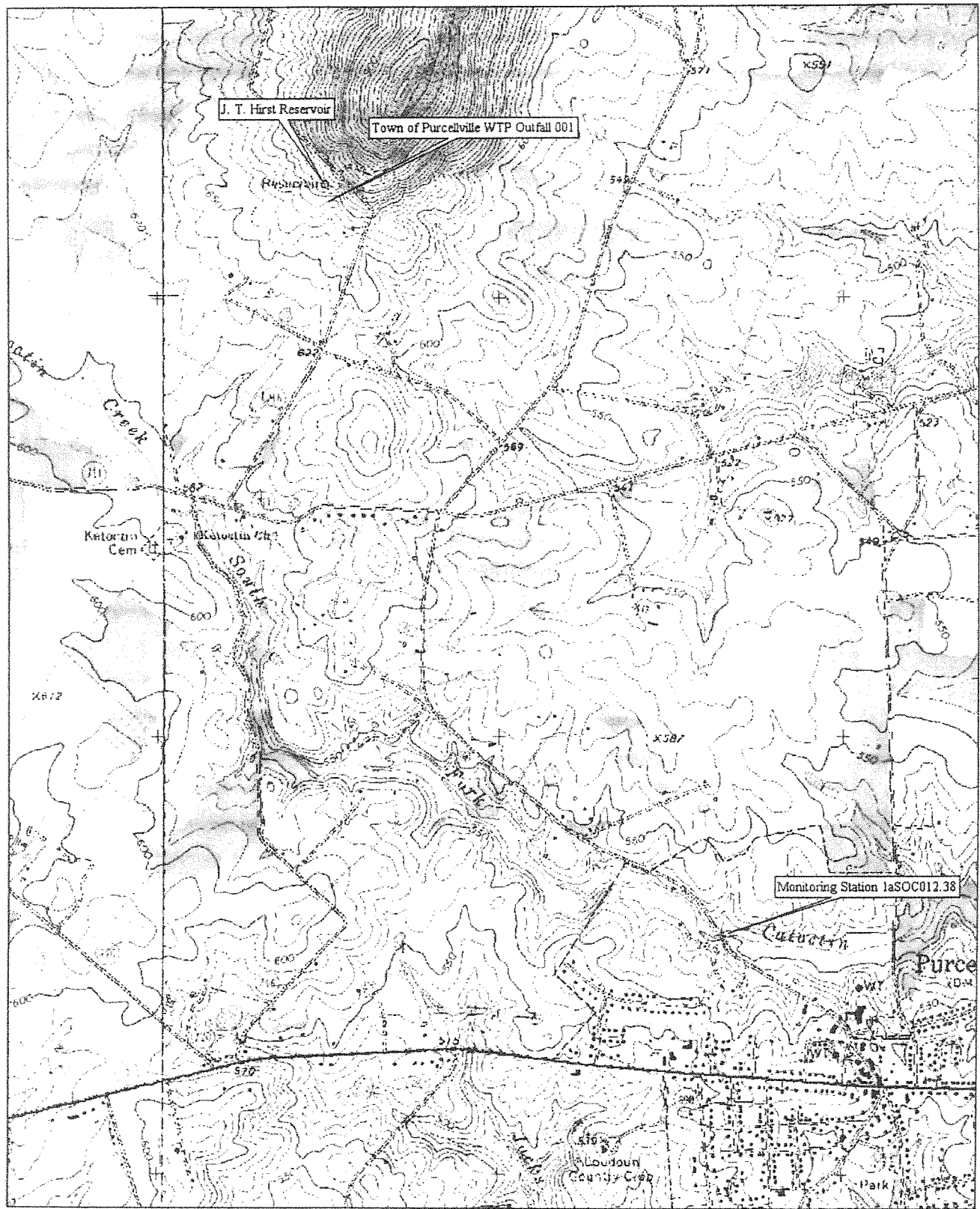
ATH

Shorthill Road (State Route 716)

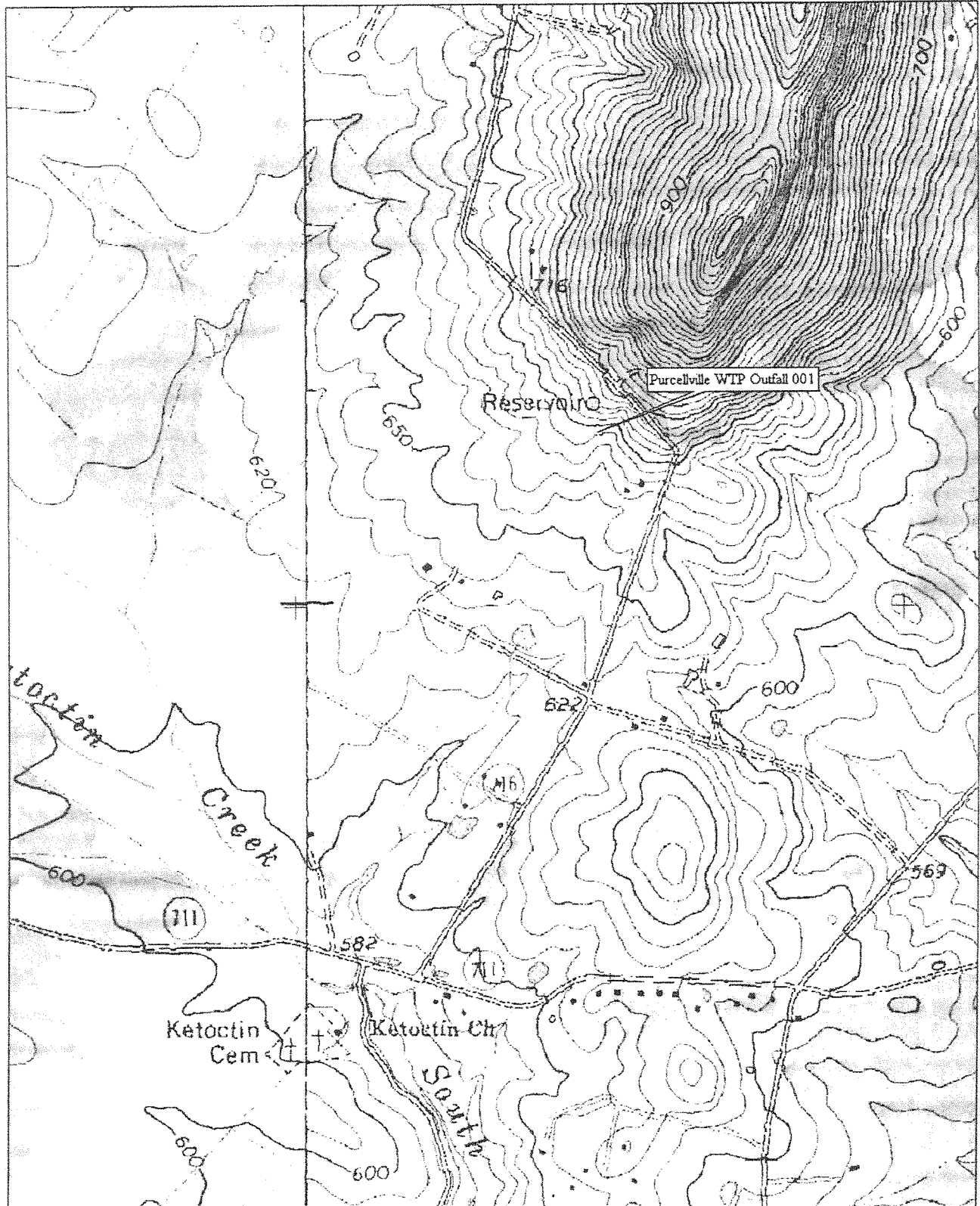
**Town of Purcellville
Water Treatment Facility
16153 Short Hill Road**



Drawing Not to Scale



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 600 ft Scale: 1:20,000 Detail: 13-8 Datum: WGS84



3-D TopoQuads Copyright © 1999 DeLorme Vermont, ME 04096 Source Data: USGS 350 ft Scale: 1:12,000 Detail: 1:6 Datum: WGS84

Purcellville Quad #215B

Attachment 4



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

L. Preston Bryant, Jr.
Secretary of Natural Resources

806 Westwood Office Park
Fredericksburg, Virginia 22401
(540) 899-4600 Fax (540) 899-4647
www.deq.virginia.gov

David K. Paylor
Director

Jeffery A. Steers
Regional Director

June 20, 2007

Karin Franklin Fellers
Director of Public Works
Town of Purcellville
130 East Main St
Purcellville, VA 20132

Re: Town of Purcellville WTP, #VA0089940

Dear Ms. Fellers:

Enclosed are copies of the technical and laboratory inspection reports generated from observations made while performing a Facility Technical Inspection at the Town of Purcellville – Water Treatment Plant (WTP) on May 31, 2007. The compliance/monitoring staff would like to thank Alex Vanegas, Paul Dagley, and William Schifflett for their time and assistance during the inspection.

Summaries for both the technical and laboratory inspections are enclosed. The facility had one Deficiency for the laboratory inspection. Please note the requirements and recommendations addressed in the Laboratory Summary, especially with regards to QC/QA documentation. Submit in writing a progress report to this office by **July 20th, 2007** for the items addressed in the summary. Your response may be sent either via the US Postal Service or electronically, via E-mail. If you chose to send your response electronically, we recommend sending it as an Acrobat PDF or in a Word-compatible, write-protected format. Additional inspections may be conducted to confirm that the facility is in compliance with permit requirements.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Virginia Regional Office at (703) 583-3882 or by E-mail at smmack@deq.virginia.gov.

Sincerely,

Sharon Mack
Environmental Specialist II

cc: Permits / DMR File, Compliance Manager
Compliance Inspector, Compliance Auditor
OWCP (Steve Stell)
Alex Vanegas – Purcellville WTP

Attachment 5

DEQ
WASTEWATER FACILITY INSPECTION REPORT
PREFACE

VPDES/State Certification No.	(RE) Issuance Date	Amendment Date	Expiration Date
VA0089940	December 10, 2003		December 9, 2008
Facility Name	Address		Telephone Number
Town of Purcellville WTP	16153 Short Hill Rd. Purcellville, VA 20132		540-388-2513
Owner Name	Address		Telephone Number
Town of Purcellville	130 East Main St. Purcellville, VA 20132		540-338-7421
Responsible Official	Title		Telephone Number
Karin Franklin	Director of Public Works		540-338-5024
Responsible Operator	Operator Cert. Class/number		Telephone Number
Alex Vanegas	Water I; 1901000790		540-338-2513

TYPE OF FACILITY:

DOMESTIC				INDUSTRIAL			
Federal		Major		Major		Primary	
Non-federal		Minor		Minor	X	Secondary	X

INFLUENT CHARACTERISTICS:

DESIGN:

	Flow	0.033 mgd	
	Population Served	NA	
	Connections Served	NA	
	BOD ₅	NA	
	TSS	NA	

EFFLUENT LIMITS: SPECIFY UNITS

Parameter	Min.	Avg.	Max.	Parameter	Min.	Avg.	Max.
Flow, MGD		NA	NL	pH, s.u	6.0		9.0
TSS, mg/L		30	60	TRC, mg/L		0.016	0.016

	Receiving Stream	UT, South Fork Catoctin Creek	
	Basin	Potomac River	
	Discharge Point (LAT)	39° 10' 13"	
	Discharge Point (LONG)	77° 44' 29"	

REV 5/00

**DEQ
WASTEWATER FACILITY
INSPECTION REPORT
PART 1**

Inspection date: **May 31, 2007**Date form completed: **June 20, 2007**Inspection by: **Sharon Mack**Inspection agency: **DEQ NRO**Time spent: **19 hrs**Announced: **No**

Reviewed by:

Scheduled: **Yes**Present at inspection: **Wilamena Harback – DEQ
Alex Vanegas, Paul Dagley**

TYPE OF FACILITY:

Domestic**Industrial**☐ Federal☐ Major☐ Major☐ Primary☐ Nonfederal☐ Minor☒ Minor☒ Secondary

Type of inspection:

☒ Routine

Date of last inspection:

None☐ Compliance/Assistance/Complaint

Agency:

DEQ NRO☐ Reinspection

Population served: approx.

NA

Connections served: approx.

NALast month average: (Effluent) Month/year: **May 2007**

Flow:	0.0178	MGD	pH:	7.2	s.u.
TRC:	< QL	mg/L	TSS:	2.5	mg/L

Quarter average: (Effluent) March, **April, May 2007**

Flow:	0.0152	MGD	pH:	7.2	s.u.
TRC:	< QL	mg/L	TSS:	9.5	mg/L

DATA VERIFIED IN PREFACE

☒ Updated☐ No changes

Has there been any new construction?

☐ Yes☒ No

If yes, were plans and specifications approved?

☐ Yes☐ No☒ NADEQ approval date: **NA**

(A) PLANT OPERATION AND MAINTENANCE

1. Class and number of licensed operators: I 4 II 0 III 2 IV 1 Trainee 0
2. Hours per day plant is manned: **Varies w/ water demand. – minimum 15 hrs per day, 7 days per week.**
3. Describe adequacy of staffing. ☒ Good ☐ Average ☐ Poor
4. Does the plant have an established program for training personnel? ☒ Yes ☐ No
5. Describe the adequacy of the training program. ☒ Good ☐ Average ☐ Poor
6. Are preventive maintenance tasks scheduled? ☒ Yes ☐ No
7. Describe the adequacy of maintenance. ☒ Good ☐ Average ☐ Poor*
8. Does the plant experience any organic/hydraulic overloading?
If yes, identify cause and impact on plant: ☐ Yes ☐ No ☒ NA
9. Any bypassing since last inspection? ☐ Yes ☒ No
10. Is the standby electric generator operational? ☒ Yes ☐ No* ☐ NA
11. Is the WTP alarm system operational? ☐ Yes ☐ No* ☒ NA
12. How often is the standby generator exercised? **Weekly, under load (every Friday)**
Power Transfer Switch? **Weekly**
Alarm System? **NA**
13. When was the cross connection control device last tested on the potable water service? **NA**
14. Is sludge being disposed in accordance with the approved sludge disposal plan?
☐ Yes ☐ No ☒ NA
15. Is septage received by the facility? ☐ Yes ☒ No
Is septage loading controlled? ☐ Yes ☐ No ☒ NA
Are records maintained? ☐ Yes ☐ No ☒ NA
16. Overall appearance of facility: ☒ Good ☐ Average ☐ Poor

Comments:

1. **Operators hold Waterworks Operator licenses; a Wastewater License is not required at this facility.**
14. **Sludge is dried in drying beds and hauled to Loudoun County Landfill. If liquid sludge is pumped and hauled, it is sent to a Prince William County Service Authority (PWSA) facility.**

(B) PLANT RECORDS

1. Which of the following records does the plant maintain?

Operational Logs for each unit process	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Instrument maintenance and calibration	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Mechanical equipment maintenance	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Industrial waste contribution (Municipal Facilities)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> NA

2. What does the operational log contain?

<input checked="" type="checkbox"/> Visual observations	<input type="checkbox"/> Flow measurement
<input checked="" type="checkbox"/> Laboratory results	<input checked="" type="checkbox"/> Process adjustments
<input type="checkbox"/> Control calculations	<input type="checkbox"/> Other (specify)

Comments:

3. What do the mechanical equipment records contain?

<input type="checkbox"/> As built plans and specs	<input type="checkbox"/> Spare parts inventory
<input checked="" type="checkbox"/> Manufacturers instructions	<input checked="" type="checkbox"/> Equipment/parts suppliers
<input checked="" type="checkbox"/> Lubrication schedules	<input type="checkbox"/> Other (specify)

Comments:

4. What do the industrial waste contribution records contain?
- NA**
-
- (Municipal Only)

<input type="checkbox"/> Waste characteristics	<input type="checkbox"/> Locations and discharge types
<input type="checkbox"/> Impact on plant	<input type="checkbox"/> Other (specify)

Comments:

5. Which of the following records are kept at the plant and available to personnel?

<input checked="" type="checkbox"/> Equipment maintenance records	<input checked="" type="checkbox"/> Operational Log
<input type="checkbox"/> Industrial contributor records	<input checked="" type="checkbox"/> Instrumentation records
<input checked="" type="checkbox"/> Sampling and testing records	

6. Records not normally available to plant personnel and their location:
- None**

7. Were the records reviewed during the inspection?
- ☒
- Yes
- ☐
- No

8. Are the records adequate and the O & M Manual current?
- ☒
- Yes
- ☐
- No

9. Are the records maintained for the required 3-year time period?
- ☒
- Yes
- ☐
- No

Comments:

(C) SAMPLING

1. Do sampling locations appear to be capable of providing representative samples? ☒ Yes ☐ No*
2. Do sample types correspond to those required by the VPDES permit? ☒ Yes ☐ No*
3. Do sampling frequencies correspond to those required by the VPDES permit? ☒ Yes ☐ No*
4. Are composite samples collected in proportion to flow? ☐ Yes ☒ No* ☐ NA
5. Are composite samples refrigerated during collection? ☒ Yes ☐ No* ☐ NA
6. Does plant maintain required records of sampling? ☒ Yes ☐ No*
7. Does plant run operational control tests? ☒ Yes ☐ No

Comments:

- 4. The permit requires 5 grab samples be collected at hourly intervals until the discharge ceases or at equal time intervals if the discharge duration is less than eight hours. Samples are collected manually.**

(D) TESTING

1. Who performs the testing? ☒ Plant ☒ Central Lab ☐ Commercial Lab

Name: **Plant – pH and TRC**
Basham Simms WWTP - TSS

If plant performs any testing, complete 2-4.

2. What method is used for chlorine analysis? **Hach DR4000 Spectrophotometer**
3. Does plant appear to have sufficient equipment to perform required tests? ☒ Yes ☐ No*
4. Does testing equipment appear to be clean and/or operable? ☒ Yes ☐ No*

Comments:

(E) FOR INDUSTRIAL FACILITIES WITH TECHNOLOGY BASED LIMITS ONLY

1. Is the production process as described in the permit application? (If no, describe changes in comments)
☐ Yes ☐ No ☒ NA
2. Do products and production rates correspond as provided in the permit application? (If no, list differences)
☐ Yes ☐ No ☒ NA
3. Has the State been notified of the changes and their impact on plant effluent? Date:
☐ Yes ☐ No* ☒ NA

Comments:

SUMMARY

Comments:

- **The staff is commended for the appearance and maintenance of the facility.**
- **A licensed wastewater operator is not required at this facility.**
- **Monitoring data is submitted monthly via E-DMR.**

Recommendations:

- **The vegetation around Outfall 001 should be trimmed back for easy access to the water discharge point. When I spoke to Alex on the morning of June 20th, a crew was working on this project.**

Process Description

The source of town of Purcellville's water treatment plant is a spring-fed reservoir. Treatment chemicals are added as needed to the incoming water flow. The sedimentation system consists of three Microfloc filter units – water enters flocculation basins where alum is added as a flocculation aid. Water then flows under the divider wall and up through the settling tubes, and then through the mixed-media filter. Chlorine is added after the filters. Finished water is stored in the 1,000,000 gallon tank on site and in the 200,000 gallon tank in the City of Purcellville.

Filters are backwashed using chlorinated water. Backwash water is discharged into the 2 settling basins, which are operated in parallel. The pump to discharge water from the basins is manually operated after the solids have had time to settle. The water passes through the dechlorination tablet feeder and then exits the plant at Outfall 001. Samples are currently taken at a tap just downstream of the tablet feeder.

Settled sludge is pumped from the first basin into the second; and from there is pumped to drying beds. Dried sludge is disposed of at the Loudoun County landfill. Liquid sludge may be pumped and hauled to Prince William Service Authority.

The attached schematic of the discharge system was supplied by Alex Vanegas.

UNIT PROCESS: Dechlorination

1. Chemical used: ☐ Sulfur Dioxide ☒ Bisulfite ☐ Other
2. No. of sulfonators: **0** In operation: **0**
3. No. of evaporators: **0** In operation: **0**
4. No. of chemical feeders: **0** In operation: **0**
5. No. of contact tanks: **1** In operation: **1**
6. Proper flow distribution between units: ☐ Yes ☐ No* ☒ NA
7. How is chemical introduced into the wastewater?
☐ Perforated diffusers
☐ Injector with single entry point
☒ Other **Tablet Feeder**
8. Control system operational: ☒ Yes ☐ No*
a. residual analyzers: ☐ Yes ☒ No*
b. system adjusted: ☐ Automatic ☒ Manual ☐ Other:
9. Applied dechlorination dose: **See comments**
10. Chlorine residual in basin effluent: **Not measured – no discharge**
11. Contact basins adequately baffled: ☐ Yes ☐ No* ☒ NA
12. Adequate ventilation:
a. cylinder storage area: ☒ Yes ☐ No*
b. equipment room: ☒ Yes ☐ No*
13. Proper safety precautions used: ☒ Yes ☐ No*
14. General condition: ☒ Good ☐ Fair ☐ Poor

Comments:

- 9. The tablet feeder is checked daily. Staff usually put tablets in only one tube, which is topped off as needed.**

UNIT PROCESS: Effluent/Plant Outfall

1. Type Outfall ☒ Shore based ☐ Submerged
2. Type if shore based: ☐ Wingwall ☒ Headwall ☐ Rip Rap
3. Flapper valve: ☐ Yes ☒ No ☐ NA
4. Erosion of bank: ☐ Yes ☒ No ☐ NA
5. Effluent plume visible? ☐ Yes* ☒ No **No Discharge**
6. Condition of outfall and supporting structures: ☐ Good ☒ Fair ☐ Poor*
7. Final effluent, evidence of following problems: **No Discharge**
 - a. oil sheen ☐ Yes* ☐ No
 - b. grease ☐ Yes* ☐ No
 - c. sludge bar ☐ Yes* ☐ No
 - d. turbid effluent ☐ Yes* ☐ No
 - e. visible foam ☐ Yes* ☐ No
 - f. unusual color ☐ Yes* ☐ No

Comments:

6. **Outfall was very overgrown – vegetation should be cut back to allow access and observation of water being discharged.**

To: Alison Thompson
From: Jennifer Carlson

Date: March 6, 2014
Subject: Planning Statement for Purcellville Town WTP
Permit Number: VA0089940

Information for Outfall 001:

Discharge Type: Industrial
Discharge Flow: 0.033 MGD
Receiving Stream: South Fork Catoctin Creek, UT
Latitude / Longitude: 39 10 13, 77 44 29
Rivermile: 0.96
Streamcode: 1aXIL
Waterbody: VAN-A02R
Water Quality Standards: Section 10, Class III, No special standards
Drainage Area: 0.02 mi²

1. Please provide water quality monitoring information for the receiving stream segment. If there is not monitoring information for the receiving stream segment, please provide information on the nearest downstream monitoring station, including how far downstream the monitoring station is from the outfall.

This facility discharges into an unnamed tributary to South Fork Catoctin Creek that has not been monitored or assessed. There is a downstream DEQ ambient monitoring station located on South Fork Catoctin Creek, located approximately 2.4 miles downstream of Outfall 001. Station 1aSOC013.05 is located just upstream of the Route 7 Bypass crossing. The following is the water quality summary for this segment of South Fork Catoctin Creek, as taken from the 2012 Integrated Report:

Class III, Section 10b.

DEQ monitoring station located in this segment of South Fork Catoctin Creek:

- *Ambient and biological monitoring station 1aSOC013.05, fifty yards above the Route 7 Bypass crossing*

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. The E. coli data collected by the citizen monitoring group indicate that a water quality issue may exist for the recreation use; however, the methodology and/or data quality has not been approved for such a determination. A fecal coliform TMDL for the South Fork Catoctin Creek watershed has been completed and approved.

Biological and associated chemical monitoring finds this segment to be supporting the aquatic life use. Citizen monitoring finds a low probability of adverse conditions for biota. The fish consumption use is considered fully supporting based on water column metals data. The wildlife use is fully supporting.

2. Does this facility discharge to a stream segment on the 303(d) list? If yes, please fill out Table A.

No.

3. Are there any downstream 303(d) listed impairments that are relevant to this discharge? If yes, please fill out Table B.

Yes.

Table B. Information on Downstream 303(d) Impairments and TMDLs

Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA	TMDL Schedule
<i>Impairment Information in the 2012 Integrated Report</i>							
South Fork Catoctin Creek	Recreation	<i>E. coli</i>	0.96 miles	Catoctin Creek Watershed Bacteria 5/31/2002	None (not expected to discharge pollutant)	---	---
	Aquatic Life	Benthic Macroinvertebrates	2.7 miles	No	N/A	N/A	2016

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

Additional monitoring will not be requested from this facility in support of the downstream benthic impairment. This downstream impairment for South Fork Catoctin Creek is listed in the 2012 Integrated Report. More recent benthic monitoring conducted in South Fork Catoctin Creek show acceptable scores for the benthic macroinvertebrate communities, which makes this stream eligible for delisting in the next Integrated Report. It is expected that South Fork Catoctin Creek will be delisted for the aquatic life use in the 2014 Integrated Report; therefore no additional monitoring is needed at this time.

There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

5. Fact Sheet Requirements – Please provide information regarding any drinking water intakes located within a 5 mile radius of the discharge point.

There are no public water supply intakes located within 5 miles of this discharge.

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Purcellville Town WTP
Receiving Stream: South Fork Catoctin Creek, UT

Permit No.: VA0089940

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO3) =	50 mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO3) =	50 mg/L
90% Temperature (Annual) =	25 deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	100 %	90% Temp (Annual) =	25 deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	100 %	90% Temp (Wet season) =	deg C
90% Maximum pH =	8 SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	100 %	90% Maximum pH =	8 SU
10% Maximum pH =	SU	30Q10 (Wet season) =	0 MGD	- 30Q10 Mix =	100 %	10% Maximum pH =	SU
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD			Discharge Flow =	0.033 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD				
Trout Present Y/N? =	n						
Early Life Stages Present Y/N? =	y						

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenaphthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+00
Acrylonitrile ^C	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin ^C	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	3.0E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	8.41E+00	1.24E+00	na	--	8.41E+00	1.24E+00	na	--	--	--	--	--	--	--	--	--	8.41E+00	1.24E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	8.41E+00	2.43E+00	na	--	8.41E+00	2.43E+00	na	--	--	--	--	--	--	--	--	--	8.41E+00	2.43E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene ^C	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine ^C	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene ^C	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene ^C	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene ^C	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene ^C	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis(2-Chloroethyl) Ether ^C	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis(2-Chloroisopropyl) Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+04
Bis 2-Ethylhexyl Phthalate ^C	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform ^C	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
Cadmium	0	1.8E+00	6.6E-01	na	--	1.8E+00	6.6E-01	na	--	--	--	--	--	--	--	--	--	1.8E+00	6.6E-01	na	--
Carbon Tetrachloride ^C	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane ^C	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene				na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03

Attachment 7

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane ^c	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	--	--	--	--	3.2E+02	4.2E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene ^c	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	--	--	--	--	7.0E+00	5.0E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	1.6E+04
DDD ^c	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE ^c	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT ^c	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine ^c	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane ^c	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane ^c	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane ^c	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropane ^c	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin ^c	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene ^c	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8- tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine ^c	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor ^c	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	7.9E-04
Heptachlor Epoxide ^c	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	3.9E-04
Hexachlorobenzene ^c	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene ^c	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane Alpha-BHC ^c	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Hexachlorocyclohexane Beta-BHC ^c	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane Gamma-BHC ^c (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	9.5E-01	--	na	1.8E+00
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+03
Hexachloroethane ^c	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone ^c	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepon	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	4.9E+01	5.6E+00	na	--	4.9E+01	5.6E+00	na	--	--	--	--	--	--	--	--	--	4.9E+01	5.6E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+03
Methylene Chloride ^c	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.0E+02	1.1E+01	na	4.6E+03	--	--	--	--	--	--	--	--	1.0E+02	1.1E+01	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+02
N-Nitrosodimethylamine ^c	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine ^c	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine ^c	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	2.8E+01	6.6E+00	na	--
Perathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB Total ^c	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	1.4E-02	na	6.4E-04
Pentachlorophenol ^c	0	7.7E-03	5.9E-03	na	3.0E+01	7.7E-03	5.9E-03	na	3.0E+01	--	--	--	--	--	--	--	--	7.7E-03	5.9E-03	na	3.0E+01
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+05
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Radionuclides Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	2.0E+01	5.0E+00	na	4.2E+03
Silver	0	1.0E+00	--	na	--	1.0E+00	--	na	--	--	--	--	--	--	--	--	--	1.0E+00	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,1,2,2-Tetrachloroethane ^C	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	--	--	na	4.0E+01
Tetrachloroethylene ^C	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	--	--	na	4.7E-01
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	--	--	na	6.0E+03
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Toxaphene ^C	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	7.3E-01	2.0E-04	na	2.8E-03
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	4.6E-01	7.2E-02	na	--
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	--	--	na	7.0E+01
1,1,2-Trichloroethane ^C	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	--	na	1.6E+02
Trichloroethylene ^C	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	--	--	na	3.0E+02
2,4,6-Trichlorophenol ^C	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	--	na	2.4E+01
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Vinyl Chloride ^C	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	--	na	2.4E+01
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	6.5E+01	6.6E+01	na	2.6E+04	--	--	--	--	--	--	--	--	6.5E+01	6.6E+01	na	2.6E+04

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)	Note: do not use QL's lower than the minimum QL's provided in agency guidance
Antimony	6.4E+02	
Arsenic	9.0E+01	
Barium	na	
Cadmium	3.9E-01	
Chromium III	2.5E+01	
Chromium VI	6.4E+00	
Copper	2.8E+00	
Iron	na	
Lead	3.4E+00	
Manganese	na	
Mercury	4.6E-01	
Nickel	6.8E+00	
Selenium	3.0E+00	
Silver	4.2E-01	
Zinc	2.6E+01	

Facility = Purcellville WTP (VA0089940)

Chemical = Chlorine, Total Residual

Chronic averaging period = 4

WLA_a = 19

WLA_c = 11

Q.L. = 100

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 200

Variance = 14400

C.V. = 0.6

97th percentile daily values = 486.683

97th percentile 4 day average = 332.758

97th percentile 30 day average = 241.210

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity

Maximum Daily Limit = 16.0883226245855

Average Weekly limit = 16.0883226245856

Average Monthly Limit = 16.0883226245856

The data are:

200

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated industrial wastewater into a water body in Loudoun County, Virginia.

PUBLIC COMMENT PERIOD: XXX, 2014 to XXX, 2014

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Town of Purcellville, 221 S. Nursery Ave, Purcellville, VA 20132, VA0089940

NAME AND ADDRESS OF FACILITY: Purcellville Town Water Treatment Plant, 16153 Short Hill Rd, Purcellville, VA20132

PROJECT DESCRIPTION: The Town of Purcellville has applied for a reissuance of a permit for the public Purcellville Town Water Treatment Plant. The applicant proposes to release treated industrial wastewaters at a rate of 0.039 million gallons per day into a water body. The facility proposes to release the treated industrial wastewaters in the South Fork Catoctin Creek, UT in Loudoun County in the Potomac watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, Total Suspended Solids, and Total Residual Chlorine.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the draft permit and application at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Alison Thompson

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3834 E-mail: Alison.Thompson@deq.virginia.gov Fax: (703) 583-3821